

# CERTIFICATE OF ANALYSIS

Product Description RUTHENIUM RED, TETRAHYDRATE  
Product Number R7278  
Lot Number 13F7278001  
Molecular Weight 858.42  
Formula  $H_2Cl_6N_{14}O_2Ru_3 \cdot 4H_2O$   
CAS Number 12790-48-6  
Storage Temperature Room Temperature

## Physiochemical Specifications:

TEST	SPECIFICATION	RESULTS
Solubility	Soluble in Water @ 1mg/mL	Passes
pH	Under Development	4.3
Physical Appearance		
Color*	Under Development	2114-10 Brownish-Red
Texture	Fine to Coarse Powder	Coarse Powder
Solution Appearance		
Color	Under Development	Purple
Clarity	Clear	Clear
Average Time to Dissolve	Within 10 min	Passes
Insolubles	None	Passes
Purity	Minimum 99.0%	99.54%

\* Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color Preview™).

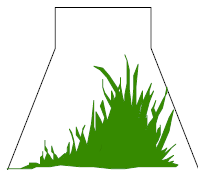
The material described in this certificate is synthetic in nature. No animal- or plant-derived components were used in the manufacture of this product.

**PhytoTechnology Laboratories® provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. PhytoTechnology Laboratories® shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

Recommended Shelf Life Date: October 2022



Gary Seckinger, Ph.D.



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